Toward Self-Reliant Development: A Guide for Evaluating the Sustainability of Project Benefits

Elliott R. Morss
Paul R. Crawford
George H. Honadle

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DAI
Development Alternatives, Inc. 624 Ninth Street, N.W. Washington, D.C. 20001

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INTRODUCTION

The development landscape is littered with the remains of projects that died when donor funding ended. Although the projects were expected to launch self-sustaining development processes, they resulted instead in temporary infusions of assets and personnel and the delivery of short-run services.

Such a case is reported from East Africa where U.S. scientists were employed for almost 15 years in trying to develop improved varieties of maize in Kenya. They achieved some noticeable successes. However, when the last of a series of U.S. technicians left in the mid-1970s, the research necessary for further maize development came to a halt. No institutional capacity had been developed to promote and carry out future maize research. As a result, indigenous maize breeding capacity remains very limited in Kenya, as it is elsewhere in East Africa.

If this were an isolated example, it would be regrettable but understandable. But given the ease of identifying projects that have failed, the record of sustainability must be considered deplorable. The history of failure breeds cynicism, indifference, and most importantly slows the development process by destroying local confidence, support and expectations. In sum, the main thing sustained is doubt.

In recognition of these realities, the Agency for International Development (AID) is giving serious attention to the issue of the sustainability of project-induced benefit streams. The administrator has called upon AID to do so.

One response to this call is a widespread focus on the issue of recurrent costs. This is commendable, but it deals with only one of the factors that can result in the demise of project activities and benefits after foreign assistance terminates. The total set of factors that influence the "sustainability" of a project's stream of benefits is complex. Costs are a key element, but so is institutional capacity. In many cases, an additional problem is the reliance on public sector mechanisms where markets and private sector actors might well do a better job.

This paper represents an effort to understand more accurately the complex web of factors affecting sustainability. More precisely the focus here is on formative evaluation techniques and capacity-building exercises that can be used as the basis for identifying the problems and improving the prospects for sustainability in ongoing projects.

The guide responds to those who cry for help. But, as is so seldom the case, the audience is not just the project designers or evaluators. Instead, there is also a conscious attempt to assist those in the throes of implementation; those who are in the front line of the battle to make development work.

CHAPTER ONE

FACTORS INFLUENCING SUSTAINABILITY

The overriding objective of development initiatives is to generate self-sustaining improvements in human capability and well being. At the same time, a common assumption of many donor projects is that, once activities are well underway, the donor can withdraw its assistance and the host country will continue the effort. Unfortunately, many projects that appear to be successful during implementation cease to function once foreign assistance is withdrawn, and the benefits that they are generating stop flowing. Since the continuation of project benefits is the primary objective of development, greater attention must be given to this key issue of "sustainability".

Factors which present potential impediments to benefit sustainability can be grouped into three categories:

- Political and economic issues, including the macroeconomic policy environment in which the project is set and the degree of political support that the project receives;
- Financial issues, including the use of excessively costly technologies and service delivery systems, and insufficient revenues to cover future financial needs; and
- Institutional issues, including inadequate institutional and individual capacity to carry on project activities without outside assistance, a lack of incentives to produce sustainable project benefits, and the insufficient duration of projects.

Each factor is discussed below.

Political and Economic Issues

All development projects exist within a national political and economic setting which affects their performance and potential. Indeed, the chances for success are low for even a carefully designed and well implemented project when it exists in an unfavorable political and economic environment. Consequently, an examination of political and economic factors affecting a project represents the first step in evaluating potential benefit sustainability.

Politics

Political support for a project at various levels of government is necessary for project success and the continuation of benefits. In the absence of such support, forces may develop which will undermine or cripple a project, either by changing its objectives or by diverting the resources that it needs to other activities. In a situation where broad political support does not exist, even host country officials who favor the project may be unwilling or unable to adequately support it.

Even where the government is committed to a project, political pressures may still combine to undermine long-term success. The need for quick, visible results, for example, may lead to the introduction of expensive service delivery systems or technologies which cannot be sustained in the long run, given the country's limited resources. Too much political support in the early stages of a project, moreover, can delude people into thinking that such support will always be forthcoming. Finally, political pressures may promote the continuation of a project which is not really achieving its stated objectives or providing benefits to its target population.

Economic Policies

Developing countries have historically suffered from serious economic problems such as shortages of domestic savings, internal demand and supply imbalances, and hard currency shortages. These difficulties have led, in turn, to slow growth, unemployment, and high rates of inflation (Bates, 1981; World Bank, 1981). In many cases, governments choose, or are forced, to address these problems in ways that inadvertently hamper project implementation or impact. This was the case, for example, with the failure of a rice mill construction project in Papua New Guinea. When the government lowered the official price for rice, the farmers in the region no longer found it profitable to market their output. Consequently, they switched from rice to other crops. The newly constructed government rice mill had been built based on assumptions that were no longer reasonable. As a result, the mill went idle and eventually bankrupt.

Macroeconomic policies can impinge on project implementation in many ways. Domestic price ceilings, designed to promote exports and maintain low food prices in urban areas, often lower or eliminate the incentives for farmers to increase production or adopt agricultural innovations. Import tariffs or quotas to foster domestic production of agricultural inputs may increase production costs and lower incentives to increase production. Foreign exchange controls may restrict the importation of critical inputs, such as fuel, needed to continue project activities. Restrictive monetary policies can limit the access of

beneficiaries to credit, and tight budget restrictions may lead to shortages in manpower and administrative support. Unless projects are designed with these macroeconomic limitations in mind, or the policies themselves are changed by the host governments, the success of development projects and the sustainability of the benefits that they generate will continue to be undermined.

On the other hand, economic policies may support development projects, but in ways which cannot be sustained. For example, the reliance on a technological package requiring the heavy use of chemical fertilizer may not be sustainable in a country where fertilizer is imported using scarce foreign exchange, or where the rural infrastructure is inadequate to assure its timely distribution.

Similarly, in many countries it is a national policy to provide free social services on the grounds that access to them should not be limited by one's ability to pay. However, it may be politically impossible to maintain social services in a project area at a level superior in quality and cost to the level enjoyed by neighboring areas (Gray and Martens, 1980: 79).

Finally, national policies often favor the public sector over private-sector initiatives. At times, poor economic performance results as public sector entities become overextended. Moreover, public sector entities frequently lack the incentives to ensure the provision of cost-effective services. Thus, where financially profitable investment opportunities exist, the encouragement of private sector initiatives may more effectively ensure benefit sustainability.

~~Financial~~ Issues

A second group of factors important for benefit sustainability deals with the financial viability of the project. This includes key issues such as the cost and suitability of the technology used and the ability to cover the recurrent costs of future benefit-generating activities.

~~Excessive Costs~~

In both public and private sector projects the delivery of some form of goods and services will usually be required for benefits to be sustained. Frequently, however, more expensive goods and services are delivered than is optimal, given the availability of local resources. When projects provide high priced goods and services, the possibility that they will continue to be provided after outside funding ends is reduced or eliminated.

Several factors combine to bring about the high-cost bias in development projects. Project planners sometimes design projects as if the availability of donor funds and host country resources were unlimited. Further, the pressure on donors to use foreign assistance to promote exports results in more capital-intensive solutions than are appropriate (Gray and Martens, 1980: 288). Some developing countries also express a preference for more sophisticated capital equipment than is needed (Dworkin, 1980: 12).

Similarly, there often exists a professional bias among technicians trained in the developed countries to use familiar methods and equipment. Alternatively, they may prefer to experiment with state-of-the-art technologies or approaches rather than use more mundane, yet proven, methods. For example, one AID evaluation observed that a rural roads project in the Philippines had a strong engineering bias that emphasized capital-intensive construction and excluded community participation. The availability of excess U.S. equipment at artificially low prices reinforced this capital intensive bias (Levy and others, 1981:15).

Aside from a failure to take the time and effort to customize delivery systems to local conditions, it appears that excessive costs have also stemmed from trying to do too much too soon. In this respect, projects are launched on a larger scale and aimed at a greater target population than is justified, given the level of technological understanding that exists (Gray and Morten, 1980: 11-12).

Insufficient Revenues

Frequently, project benefits are not sustained due to the government's inability to finance recurring costs or additional investments. In part, these problems have been a consequence of the high levels of donor-subsidized investment which have occurred in developing countries in the last two decades. These investments have engendered the need for revenues to cover recurrent expenditures. However, donors have been unwilling to subsidize recurrent costs (which are viewed as consumption) to complement their subsidy of development expenditures (which is viewed as investment) (Heller, 1979: 39).

Though the recurrent cost needs of an individual project may not seem excessive, the aggregate demand for recurrent funds implicit in a large number of donor projects can become a severe burden. For example, the FY1983 USAID Country Development Strategy Statement for Upper Volta (1981b: 12) noted that:

> The potential total recurrent cost burden on the Government of Upper Volta (GOUV) budget [of USAID-sponsored projects] will easily surpass 70 million 1980 dollars...by 1987, or almost a quarter of the projected national budget. The GOUV will clearly not be able to finance all of these costs.

From the recipient government's point of view, on the other hand, a resource transfer that is not self-sustaining is preferable to no resource transfer at all.

There is clearly a role for the central governments of recipient countries to play in covering both recurrent costs and future project investment needs. Alternative sources of recurrent funding may be available and should be explored. These sources include international donors, subnational governments, the private sector, and the beneficiaries themselves (through, for example, the establishment of user fees and self-help programs requiring beneficiary contributions).

Finally, aside from attempting to increase revenues to cover recurrent costs, project designers and implementers can try to minimize subsidies which will not be maintained once outside funding ends. The subsidies to be avoided include the use of staff, facilities, and equipment paid for through other accounts, the subsidization of salaries and the acquisition of materials and inputs at subsidized rates.

Other methods of minimizing costs include the design of less expensive and less complex service delivery systems, the use of low-cost technology, and the use of local resources whenever possible. In addition, larger and longer up-front investments in building the capacity of individuals and institutions to manage project activities may increase the efficiency and lower the overall costs of benefit delivery.

Institutional Issues

A third set of issues concerns the ability of institutions implementing benefit-generating activities to continue them in the future. This involves investigating both institutional and individual capability, the incentive structure in which projects operate, and the amount of time allowed to develop the capacity and incentives needed for sustainability.

Inadequate Capacity

There are few project ideas so compelling that they will perpetuate benefits without institutions equipped to carry them forward. Usually such institutions, either public or private, will have to be created or strengthened during the implementation process. When external resources are cut off, they must be able to continue certain activities, often with fewer resources than before. Institutional capacity, therefore, is a key element in project sustainability.

However, in many projects relatively little emphasis is given to the problems of institutionalization, institution building, and training. Indeed, projects are often designed with the goal of avoiding the need for capacity building. The creation of special project management units, divorced from the regular host government bureaucracies, for example, is a favored implementation approach of large donor agencies. This bypass approach is often justified on the ground that existing institutions are too weak to implement planned activities and achieve their objectives (benefit delivery) within the required life of the project.

Autonomy avoids many of the bureaucratic constraints that can hinder a project, and it can assure greater accountability to the donor over the resources and funds spent. Moreover, project management units, because they are independent of the country's civil service system, can pay higher salaries and attract more capable staff than would otherwise be possible. Often, however, these individuals come from regular ministerial positions where they are also needed. Thus a temporary device initially created to bypass institutional weaknesses actually exacerbates them. Moreover, because of the isolation of these projects, they have little if any effect on the performance of permanent institutions (World Bank, 1980a: 46).

Even when the need for institutional and individual capacity building is recognized and attempted, efforts often are not successful. For example, a project may emphasize training individuals at American universities even though it is less expensive and more effective to bring expatriates to the developing country to provide applied training based on local conditions. Moreover, when efforts focus entirely on individuals, rather than on organizations, there is less chance that performance will improve.

Similarly, expatriate technicians providing on-the-job training to counterparts has not produced dramatic results. Part of the problem is the scarcity of qualified host country staff to serve as counterparts to technical assistance personnel. However, it is also easier to measure impact by counting kilometers of road built than it is to assess impact on organizational behavior. As a result, technical assistance staff focus more on producing immediate results than on building capacity.

Inappropriate Incentives

For project benefits to be sustainable, incentives must exist to elicit the support of both individuals and institutions. The beneficiaries, for example, may not feel a need for those benefits being generated by the project. This was the case in Lesotho, where the Thaba Bosiu Rural Development Project was handicapped by an absence of economic incentives for farmers to increase agricultural production beyond subsistence levels. Many of these farmers worked in South African mines, where it was possible to earn as

much in a few days as could be earned from farming in an entire year. Thus, they carried out the minimal amount of farming necessary to maintain control of the land. The project's efforts to have farmers invest more time and resources in increasing production failed (Agency for International Development, 1980).

Bystander incentives are also important. For example, local merchants may see a project-initiated cooperative as a threat. When the merchants are the major providers of rural banking services, they often have the leverage to undermine the development of the cooperative. In such a situation, their rewards will accrue as they foil the project strategy and thus they are not likely to support implementation efforts or post-project cooperative activities.

Incentives must also exist for host institutions to do what is necessary to deliver benefits. Project activities can result in bureaucratic opposition which may undermine project continuation and benefit sustainability. This was the case, for example with an AID-funded agricultural research project in Thailand. There, the Ministry of Agriculture and Cooperatives (MOAC) initially supported the creation of a regional agricultural research center, even though it was to be housed in another agency. However, MOAC officials soon viewed it as a competitor for resources (budgets, personnel, and external aid), and their initial enthusiasm for the project died. As long as AID controlled budgetary funds for training, research equipment, and commodities, open political maneuvering against the project was restrained. However, once AID's involvement in the project ended, the center's opponents moved openly against its budget and mandate, and it was subsequently stripped of most of its resources and authority (Agency for International Development, 1981a). Thus institutional incentives mitigated against sustained benefit delivery.

Incentives within the institutional environment can thus affect the chances for continued activity. In fact, capacity building will require a critical examination of the effect of incentives on behavior and the value of that behavior for sustained development (Honadle, 1981).

Insufficient Duration and Inadequate Phasing

Often project designers seriously underestimate how long it will take to achieve a self-sustaining process. A reasonable amount of time must be allowed to develop and test proposed technologies and delivery systems, create institutional capacity necessary to support them, and convince beneficiaries of the value of the benefits provided. Unless an adequate amount of time is permitted, these activities will not be completed and project benefits will cease flowing. Yet, a review of the projects listed

in the World Bank's 1980 annual audit of project performance revealed that 65 percent of the 120 projects in the sample required over 50 percent longer than initially planned to achieve project objectives (World Bank, 1980b).

Another method of tackling the timing problem is to improve the phasing of project activities and to undertake a phased withdrawal of external resources. Careful attention should be given to phasing. For example, building the managerial capacity of an irrigator association may take much longer than building the physical infrastructure and yet the organizational task may not commence until the engineering task is completed. As a result, things fall apart.

Another dimension of this is seasonality and the fact that project phases may be defined more by the donor programming cycle than by the agricultural calendar. As a result, labor shortages or cashflow problems can threaten the takeover of activities by local organizations (Chambers, Longhurst, and Pucey, 1981).

A related problem is the tendency to force local institutions to leapfrog phases in their development. For example, turning an irrigation association into a multipurpose marketing cooperative, savings society and water management organization before it has mastered its primary function is a good way to ensure its demise. Effectiveness must precede expansion, but the implementation process does not always reward careful phasing and incremental learning.

CHAPTER TWO

ISSUES OF CHOICE, TIMING, AND FOCUS

In this chapter decision criteria will be presented to assist policy makers in deciding which projects should be evaluated to determine their potential sustainability. Project characteristics, the timing of the evaluation, and the initial focus of evaluation are all noted below.

Choosing Which Projects To Evaluate

This handbook focuses on "sustainability" factors which should be examined as part of, or in conjunction with, formative or mid-project evaluations of development projects. Evaluations of projects can serve several purposes, including:

- Identifying needed corrections in ongoing projects;
- Assessing the potential for replicability; and
- Increasing the information available on the development process.

Formative evaluations focus on point one above. This usually entails some attempt to measure the level of benefits being generated. However, it is worth remembering that the existence of benefits and the sustainability of benefit flows are different. For example, it is possible to have an immediate impact on project beneficiaries which will not be sustained, or an initially small stream of benefits might continue and increase over time. Thus while there are obvious common elements between an evaluation concerned with identifying the existence of project benefits and one concerned with their sustainability, there are differences which suggest that each should be measured independently. The best approach seems to be one that adds sustainability considerations to an evaluation focusing project impact.

Choice Criteria

Three criteria can be employed in deciding upon which projects to evaluate for benefit sustainability. These are:

- Project potential;
- Project size and significance; and
- Timing.

With respect to project potential, there is no point in evaluating a project for benefit sustainability when benefits have not been generated. There are numerous projects which, for reasons of faulty design or implementation, do not even deliver the inputs or achieve the outputs envisioned during the time allotted. Evaluating such a project on the potential for the continuation of as yet nonexistent benefits would be futile.

Large projects, and those anticipated to have wide-ranging impacts, are potential candidates for a sustainability evaluation. Where the cost of an evaluation represents a large percentage of total expected disbursements, evaluating for sustainability may be hard to justify.

As far as timing is concerned, it is appropriate to conduct a first formative evaluation of a project shortly after the technical assistance team has established initial working relationships with their counterparts. It would generally be too early in the project cycle to focus this evaluation primarily on sustainability, since at best the flow of benefits would have only just begun. It would be a useful time, however, to sensitize project staff to the sustainability issue. One effective way to do this would be to develop a realistic implementation schedule which includes what should happen as foreign aid monies are phased out.

While a useful contribution to sustainability concerns can be made in this first evaluation, the appropriate time for a full-fledged sustainability evaluation is roughly two-thirds of the way through the implementation schedule. It must be sufficiently late to provide a clear indication of what benefits will continue if project activities carry on after donor involvement ends. However, it cannot be so late that insufficient time remains to implement the changes suggested in the evaluation. For example, for a four year project a sustainability evaluation might be conducted 18 months prior to the scheduled termination date. This would allow 6 months to initiate the changes and 12 months to routinize them.

Timing the sustainability evaluation this way, then, would both allow subsequent time for correction and ensure enough previous time for significant project-specific issues to arise and become identifiable.

Focusing on Project-Specific Issues

Two initial project-specific questions must be answered prior to examining the issues discussed in chapter one.

- Have the benefits expected from the project materialized?
- What activities must be continued after the termination of foreign aid to sustain benefit flows?

These questions help to guide the task at hand, allowing the evaluators to zero in on those activities that are critical to benefit generation.

Have the Benefits Materialized?

It will be very difficult to predict the continuation of a stream of project-generated benefits when such benefits have not yet appeared. In the first place, there is no guarantee that the project will eventually provide benefits to the target population. Second, benefits may result which, while not anticipated in the project design, will nevertheless be worth sustaining. Answering the question of whether the anticipated benefits have materialized is part of any project evaluation and is the subject of a number of manuals produced by AID (Agency for International Development 1974; Practical Concepts, Inc., 1980). It involves a determination of whether the planned inputs had been delivered as scheduled, expected outputs generated, and whether those outputs were adequate to achieve the purpose of the project.

Evaluators must, however, be prepared to reexamine the original project goals and, based on implementation experience, determine if these expectations were reasonable. If not, a more realistic set of outcomes would have to be developed. The size and distribution of this benefit stream will then have to be measured and, to the extent possible, attributed to various activities within the project. Once these benefits have been estimated, it is possible to answer the second question.

What Activities Must Be Continued?

Many projects can be seen as an intervention intended to initiate a development process. Once that process has been launched, some of the activities it took to get things underway may be terminated without significantly reducing the benefit stream. To the extent that project activities can be streamlined, future resource needs, and hence costs, will be reduced. On the other hand, the continuation of that development process may require the initiation of new activities or the expansion of others. Thus, a clear specification of the types of activities

necessary to continue the flow of benefits and their magnitude is a critical step in evaluating a project's potential for benefit sustainability.

There might be activities or resources which, while critical for initiating the flow of project benefits, will not be needed for their continuation (Barclay and others, 1979). The construction of an irrigation system might require the use of heavy equipment, while the critical activity for benefit continuation, system maintenance, might not. Alternatively, after the physical construction is completed, the provision of technical assistance to local irrigators associations might be continued, or even expanded. Similarly, with respect to research projects, once the results have been obtained, such as identifying effective measures to control pests, further research might be curtailed. However, the creation of an extension program to disseminate the results to farmers might be necessary.

The purpose of this question is to distinguish between activities critical in initiating the flow of project benefits and those needed to sustain the flow of benefits. External assistance should be seen as a vehicle to get needed activities initiated, and there should be a significant reduction or shift in the resources required once these activities are ongoing. The sources of information needed to answer this question include project documentation and discussions with project staff. Answers to this question should lay the groundwork for the questions to follow by determining what resources will be required to sustain project benefits.

CHAPTER THREE

MEASURING BENEFIT SUSTAINABILITY

This chapter presents questions that can be asked during a formative evaluation to assess, for a given project, the importance of the issues identified in chapter one. "Measures" needed to formulate an answer to these questions have been suggested and incorporated into tables presented in this chapter.

The hypothesized relationship between the measure itself, and the sustainability of project benefits is outlined for each measure. In addition the type of data or variables needed to construct the measures are identified together with sources from which that data can be obtained.

These measures are illustrative. Others, appropriate to specific settings, can be identified as well. Moreover, the measures are rough. Primarily, this is due to the crudeness and imprecision of the data needed to construct them. It is also related to the fact that no minimal data set can be specified to ensure completeness. Thus the relative importance of different dimensions will vary by project. The team, then, must determine when closure has been achieved.

Although a precise assessment of potential sustainability cannot be obtained from individual measures, the weight of evidence from a broad array should provide a clearer understanding of emerging problems and potentials in a particular project. Further, as experience is gained in evaluating projects for benefit sustainability, these measures can be refined and improved.

The key questions for assessing benefit sustainability through an evaluation of an on going project are:

- How do political factors affect the chances for benefit sustainability?
- How do macroeconomic policies affect the chances for benefit sustainability?
- Are project activities being conducted in a cost-effective manner?
- What revenues will be needed to sustain these activities, and where will they come from?
- Do the institutions or individuals that will be involved in sustaining the benefits have the capacity to do so?
- How do incentives and other factors influence project performance?

- Has a reasonable amount of time been allowed for the project benefits to become sustainable?

These questions are presented in a sequence, beginning with the political and economic issues. The data on these questions will be collected concurrently. However, it is probable that the constraints to sustainability created by the broader political and economic framework will be more easily documented than those impediments identified by either the financial or the institutional questions. Similarly, the relative specificity of the data could make it easier to identify financial barriers than institutional barriers.

What Political Factors Are Important?

An analysis of the political environment affecting a project is important because it influences all aspects of project design and implementation (see table 1). Political considerations may affect the choice of technology (high or low cost), the amount of time allowed for project implementation, the allowable structure of recurrent cost financing (including the willingness to institute user fees or increase local government revenues), and the macroeconomic policies which affect a project. Political considerations may also lead to a subsidization of beneficiary demand which cannot be sustained.

For most projects, political support must exist at both the national and local levels for benefits to continue. A number of measures can be used to estimate the amount of support a project has. These include the priority attached by the government to the region or sector in which the project is working, the level of support received in the past, and that promised for the future. Information on these points can be obtained from interviews with the officials and community leaders themselves. Data on possible obstacles to benefit continuation posed by national politics can be investigated through discussions with political specialists or country officers in AID and at the State Department.

Aside from examining the stance taken by political officials and community leaders with respect to the project, evaluators should also seek out socioeconomic, ethnic, or regional groups which may be hurt by the project. Once the project officially ends, the ability of these groups to assert their views will increase, since the "carrot" of external funds will not be a factor influencing high level decision making. Discussions with representatives of groups not directly benefiting from the project could determine whether or not they are being hurt by it, to what degree, and in what way. In some cases, possibilities for lessening the adverse impact of a project could be explored. Ethnic groups that are overlooked, for example, could be incorporated into the project. In other cases, however, opposi-

Table 1. Measures for Assessing Political Support for the Project Benefit Continuation

Measures	Justification	Type of data needed	Sources
Relative attention given to the area in which the project is working, as measured by changes in per capita government and foreign aid investment in the area compared to other areas of the country (on the aggregate basis or for individual sectors, e.g. agriculture, health, etc.).	Can serve as an indication of the importance of the project area or sector focus of the project to the government. If the level of investment is lower than in other regions, it may indicate a low priority on the part of the government for the area, target group, or sector.	Government investment from both the recurrent and development budget by sector for various regions of the country in recent years. Foreign aid expenditures by sector for various regions of the country in recent years. Estimated population of the various regions of the country.	Government budgetary documents, census data. Sector and administrative reports of donor agencies. Interviews with government officials and donor staff.
Level of support by both local and national officials given to the project in the past (high or low) in terms of resources and backing.	If the level of support was low in the past, it can be expected to remain low in the future.	Performance of the government in delivering the funds, personnel, equipment, and supplies required of it by the project agreement. Evidence of pronouncements, written statements, etc. made publicly by important government policy makers in support of the project. Ratio of per capita average expenditures in project area to average per capita expenditures nation-wide. Responsiveness of policy makers to recommendations made by past evaluations of the project (e.g. was a sincere attempt made to address problems identified or were recommendations effectively ignored).	Interviews with project staff, national and local level government officials, donor staff, and project beneficiaries. Review of project documentation, especially administrative reports, financial reports, and correspondence.
Level or depth of current support for the project expressed by local and national officials and policy makers.	The higher the level of support voiced, and the broader that support, the better the chances that financial and material support will be forthcoming.	Percentage of government officials and policy makers interviewed who are familiar with project goals, strategy, and past performance. Percentage of government officials and policy makers interviewed expressing support for the continuation of the project. Evidence that the government has obligated future funds or set aside revenue sources to finance future project activities.	Interviews with government officials, project staff, and donor personnel.

(continued)

Table 1. (continued)

Measures	Justification	Type of data needed	Sources
Level of support (continued)		Evidence that government officials have been actively seeking donor support for a second phase or an expansion of the project. Evidence that local officials have been pressuring national level officials to continue supporting the project. Evidence of significant involvement of local and district officials and community leaders in project planning, needs assessment, solicitation of community resources, attendance at project meetings, etc.	
Probability that individuals or groups outside of the target group will attempt to undermine the project.	If persons outside the target group that are adversely affected by a project (or the pattern of benefits that it delivers) can hinder its performance, long run benefit sustainability will suffer.	Evidence that the interests of certain socioeconomic, ethnic, or political groups will be adversely affected if the project continues. Evidence of effective mechanisms by which these groups can block or hinder the continuation of benefit-generating project activities, for example by: • Withholding needed complementary resources, services, etc. to the project or its beneficiaries; • Affecting decision making directly through political or economic pressure on policy makers controlling project resources; and • Dissuading (through persuasion or intimidation) beneficiaries from participating.	Interviews with beneficiaries, community leaders, project staff, government officials and representatives of various non-project interest groups.
Probability that individuals or groups outside of the target group will support the project.	If persons outside of the target group indirectly benefit from a project and support it, the probability increases that benefit-generating activities will continue.	Evidence that certain socioeconomic, ethnic, or political groups will indirectly benefit from a project (or be adversely affected by the termination of project activities). Evidence of effective mechanisms by which these groups can support the project (e.g. through their influence with decision makers, control over resources, etc.).	Interviews with beneficiaries, community leaders, project staff, government officials and representatives of various non-project interest groups.

Source: Compiled by the authors.

tion to the project will be unavoidable. Then, the evaluators would have to determine whether this opposition could undermine or cripple the project, through what means, and what could be done about it.

What Macroeconomic Policies Are Important?

In assessing the importance of macroeconomic policies for the sustainability of benefits, factors which should be considered include market or output constraints; input constraints; and subsidized demand (see table 2).

Market constraints refer to macroeconomic policies which decrease project benefits by reducing output prices received by the project and its beneficiaries to uneconomic levels. Low official producer prices and restrictions on the marketing of project related outputs--through marketing boards, production quotas, export restrictions, for example--are the principle examples. Investigation may be necessary at both central and local levels. Information on why such policies exist can be obtained from the central sources, but the impact of those policies might require discussions with local residents, merchants, and project staff. Shadow prices for project outputs might then be estimated. These would be the prices that would result from supply and demand forces in the market if the constraint did not exist. These could then be compared with official prices (available from government and donor agency reports). Similarly, estimates can be made of levels of production as well as returns to the project and its beneficiaries in the absence of marketing restrictions. An analysis of the rates of return to project beneficiaries in particular can help in calculating the impact of restrictive price or marketing policies.

A sizeable parallel market for project outputs is another indication of constraining macroeconomic policies. For example, in the Niger Cereals Production Project, a seed multiplication effort was failing because of the low official price and high parallel market price for grain. Rather than deliver the new seed to the project, the farmers who contracted to mass produce it sold the seed for twice the official price to buyers smuggling it into Nigeria, where it was consumed rather than planted (Miracle, 1979).

Similarly, constraints on the acquisition of inputs needed for project success can limit long run viability. For example, a project in a West African country was prohibited from importing light weight plows in favor of heavier, domestically produced ones. However, the heavier plows were poorly adapted to the soils in the project area and had to be pulled by oxen, rather than less expensive donkeys. As a result, there was little demand for the project-supplied plows (Agency for International Development, 1979).

Table 2. Measures for Assessing the Effect of Macroeconomic Policies on Project Sustainability

Measures	Justification	Type of data needed	Sources
Degree of parity between official prices and the free market with respect to project outputs (i.e. official producer prices for individual project outputs divided by the free market price for those outputs).	When official prices received by the project and its beneficiaries are significantly less than those prices that would result from the play of market forces, there is a danger that continued or increased production would be uneconomic for the project or its beneficiaries. When official prices are significantly higher than market prices, a subsidy is created which encourages production at levels which would not otherwise be achieved. Such policy-based subsidies, however, may be eliminated after outside funding ends.	Official prices of project outputs. Estimated prices that would be received by the beneficiaries or the project in the absence of an official pricing structure. Price elasticity estimates for project outputs (i.e. what effect do variations in prices have on production levels).	Government reports, sector studies from donor agencies, independent studies, especially marketing studies. Project documentation, especially administrative reports and project-generated studies. Interviews with project staff, local merchants and businessmen, government officials, and beneficiaries. Observation, use of key informants.
Leakage into the parallel market (Quantity of project output sold through parallel market channels as a percentage of total project output).	A large percentage of output being sold through illegal channels will indicate that the official price structure is inadequate. An active parallel market, however will also indicate that a vigorous demand for project outputs exist.	Quantity and price of project output sold through parallel market channels. Identification of points where production enters the parallel market. Degree of access by project beneficiaries to parallel market channels. Quantity and price of project output sold through official channels. Evidence of production quotas, export restrictions, etc. affecting the aggregate quantity of project output that could be marketed through official channels.	Government reports, sector studies from donor agencies independent studies, especially marketing studies. Project documentation, especially administrative reports and project-generated studies. Interviews with project staff, local merchants and businessmen, government officials, and beneficiaries. Observation, use of key informants.
Degree of parity between official prices and the free market with respect to project inputs (i.e. official prices for individual inputs required by the project or by the beneficiaries divided by the free market prices for those inputs).	When official input prices are more than those which would be paid in the free market, production objectives might be undercut.	Official prices for inputs needed by the project (e.g. raw materials, equipment, etc.). Estimated prices that would be paid by the project or beneficiaries in the absence of an official pricing structure.	Government reports, sector studies from donor agencies, independent studies, especially marekting studies.

(continued)

Table 2. (continued)

Measures	Justification	Type of data needed	Sources
	When official prices are less than those the project or beneficiary would pay in the free market, a subsidy is created which may not be continued after outside funding ends.	Price elasticity estimates for project inputs.	Project documentation, especially administrative reports and project-generated studies. Interviews with project staff, local merchants and businessmen, government officials, and beneficiaries. Observation, use of key informants.

Source: Compiled by the authors.

Economic policies may subsidize demand for project outputs and services. Inflated producer prices, low cost agricultural inputs, and credit at below market interest rates are examples. The reliance on economic policy-induced subsidies can be risky for a project, since economic policies may be altered in response to political changes. An examination of the economic policies affecting a project will be necessary to determine the level of subsidized demand inherent in it.

Discussions with beneficiaries and project staff could elicit information on the amount of demand that could be expected in the absence of the subsidy, together with the possibility of instituting user charges or fees to decrease its size. It should be kept in mind, however, that subsidies per se are not bad. It is only when there is reason to believe that they will not be continued that they become a concern. Conversations with donor agency staff, and government officials could shed light on the willingness (for political or equity reasons) to continue some portion of the subsidy after the project ends. From a central government perspective, continuation of a subsidy may be much less costly than conditions which would prevail in its absence. Thus, understanding the calculus of the subsidizer is essential.

Are Project Activities Cost-Effective?

Once it has been determined that certain project activities must be continued to sustain project benefits, one should ask whether these activities are being undertaken in the most cost-effective fashion (see table 3). The costs of operating and maintaining technologies or systems is often greater than can be managed when external aid is ended. Thus, cost reductions will reduce future resource demands and enhance the prospects for sustainability.

The first step in assessing the cost-effectiveness of a technology or delivery system is to determine whether the economic analysis originally used to justify the project is still valid. This does not require that a complex cost-benefit analysis be repeated. However, the original analysis must be examined for its accuracy and continued relevance. Actual implementation experience, for example, may have called into question some of the assumptions made. The costs of inputs, outputs, service delivery, etc. may have been higher or lower than anticipated. Unforeseen delays may have increased aggregate project costs or poor workmanship may have made the technology unworkable (such as irrigation channels below sea level, all-weather roads that are not, and so forth). Where modifications are necessary to the original analysis, recalculations could be made to ensure that the project's cost-effectiveness has not decreased substantially.

Table 3. Measures to Determine Cost-Effectiveness and Sustainability of the Project Activities

Measures	Justification	Type of data needed	Sources[1]
Continued relevance of original cost-benefit analysis.	If the assumptions, cost estimates, etc. of the original economic analysis have not been accurate, it may indicate that the cost-effectiveness of project activities is better or worse than that originally used to justify the project.	Examination of original economic analysis for continued validity of assumptions, either explicit or implicit. Comparison of expected prices of inputs/outputs, cost of goods produced and service delivery, etc. with actual implementation experience. Comparison of performance of technology used, (e.g. yield of new seed varieties, numbers of beneficiaries reached, etc.), with original predictions upon which the first analysis was based.	Economic analysis in original project design. Secondary documentation regarding economic statistics, prices, etc. in the region. Discussions with project staff, donors, beneficiaries, etc. with regard to actual implementation experience, prices, performance, of technology, and so forth. Observation, direct measurement.
Unit cost of technology or service delivery employed in project being evaluated compared with that of similar projects or with estimates of "low cost" approaches by experts.	If the unit cost of a technology (e.g. an irrigation system) or the per beneficiary cost of service delivery (e.g. primary health care) is higher than that encountered elsewhere, it may indicate potential problems with benefit sustainability.	Data needed to establish comparability of projects with respect to scale, scope, complexity and setting (e.g. level of investment, number of beneficiaries, types of interventions chosen, resources available, etc.). Installation, operation, and maintenance costs per beneficiary or per unit of output for various alternative approaches or technologies.	Project administrative reports, interviews with project staff. Reports from similar projects. Donor sector studies, development literature. Discussions with experts on technology or type of service delivery.
Unit cost of the goods or services offered by the project compared to the user's ability to pay.	If the technology or delivery system provides goods and services to project beneficiaries at a cost which exceeds their ability to pay, it will be impossible to continue delivering those benefits without a perpetual injection of outside resources.	Cost per beneficiary per unit of the output generated by the approaches or technologies employed in the project (see above). Amount of funds/resources accruing to households as a result of their using the goods and services provided by the project. Amount of funds or resources available to the average beneficiary household that could be set aside for purchasing the goods and services offered by the project.	Review of project administrative reports, interviews with project staff. Interviews with beneficiaries, information from household consumption surveys. Financial analysis of the technology.

(continued)

Table 3. (continued)

Measures	Justification	Type of data needed	Sources
Degree of dependence upon expatriates or outside resources to keep the technology or delivery system operational.	When outside funding ends, the maintenance experts will leave. Further, the availability of outside resources will be less assured, thus limiting the future performance of the technology or delivery system.	Estimated degree of dependence: • Number of local staff trained and able to maintain the technology; and • Percentage of resources, parts, etc. that are locally procured (taking into account that some parts are more critical than others). Expected life of the machinery, etc. without outside assistance. Percentage of the cost of the technology to be covered by foreign exchange.	Observation, direct and indirect measurement, interviews with project staff, experts.
Level of local production of the technology or its components.	Exploiting this potential can lower recurrent costs and ensure greater reliability of the technology and delivery system used (this is the obverse of the dependence on outside expertise and resources measure, discussed above).	Evidence of opportunities for local production of project inputs which have not been exploited. Evidence that facilities for local manufacture exist and that local production is feasible (i.e. that opportunities for local production exist).	Interviews with project staff, local community leaders, local businessmen and merchants.
Ability to maintain and repair the technology during implementation.	If the technology cannot be maintained during implementation, it is unlikely that it will be maintained after outside funding ends.	Percentage of vehicles, equipment, etc. "down" due to repair problems at any given time during implementation. Average length of time that equipment is awaiting repair (e.g. number of work-days lost).	Project administrative reports; vehicle maintenance and procurement logs. Observation, direct and indirect measurement techniques.

(continued)

Table 3. (continued)

Measures	Justification	Type of data needed	Sources
Gap between the behavioral practices entailed in using the new technology and that entailed in the previous technology.	The greater the number and magnitude of the behavioral changes implicit in adopting a new technology (i.e. its complexity with respect to beneficiary and project staff experience) the more sensitive the technology to breakdown. For example, an intervention based on changes in existing cultivation practices (e.g. the use of a new hoe) would be easier to sustain than one requiring the adoption of new cultivation practices (e.g. the application of fertilizer.)	Explicit identification of the new skills that must be learned in order to use the new technology (by both project staff and project beneficiaries).	Interviews with project staff, beneficiaires. Observation, direct and indirect measurement.
Level of use of paraprofessionals in project implementation.	Exploiting this potential can lower recurrent costs and ensure greater reliability of the technology and delivery system.	Evidence that opportunities for the use of paraprofessionals exist which have not been exploited. Cost of paraprofessionals relative to professionals. Evidence that paraprofessionals have been integrated into other projects in the country, or have undertaken similar activities in the past.	Interviews with project staff, local community leaders, beneficiaries.

Note: [1] Interviews can refer to sample surveys, confidential interviews, group interviews, the use of key informants, and workshops. Past evaluation of a project will as a potential source of information for many of the measures listed.

Source: Compiled by the authors.

Another option in assessing the cost-effectiveness of a technology or delivery system is to determine what constitutes a "low cost" method, and to compare that with the costs per beneficiary or per unit encountered in the project at hand. This would entail a review of studies dealing with low cost delivery systems or technologies, or the examination of the experiences of similar projects in comparable environments. It is important to rely on actual experience, however, and not on design estimates for unit-cost information. The need to obtain project approval may bias the cost/beneficiary or unit cost estimates presented in the project design. Aside from a review of the documentation, discussions with experts within AID/Washington and the host country may help identify reasonable unit costs or sources for such estimates. If the unit costs experienced by the project greatly exceed those found elsewhere, further investigation will be necessary to determine the reasons, and to ascertain whether project costs can be lowered.

Another important indication of the cost-effectiveness of a technology or delivery system is its long-term reliability. Often, the maintenance and operation of a technology requires skills, inputs and parts which are not available locally. Vehicles, office and laboratory equipment, computer systems, and the like often must rely on the availability of expatriate expertise for maintenance or on foreign sources for parts. One measure of reliability would be the percentage of vehicles or equipment that is "down" due to repair problems during implementation. At least in larger projects, this information will be available from maintenance logs or procurement reports. Depending upon the importance of the equipment or vehicle for project success, a large percentage of inoperable equipment or a long turn-around time in repairing it will indicate potential problems for post-project operation and maintenance. If the project has experienced problems during implementation in maintaining its equipment, those problems can be expected to multiply once outside assistance ends (see Morss, and others, 1975).

Alternatively, the local production of technology or replacement parts, and the use of paraprofessionals to perform some project activities are methods that a project can use to lower benefit delivery costs. The failure of project staff to take advantage of such opportunities can be an indication of future problems.

What Revenues Will Be Needed?

To continue most benefit-generating activities, some amount of continued financial outlay will be necessary. Staff must be supported, equipment maintained, supplies procured, and so forth. An examination of viability, therefore, must include an examination of these recurrent expenditures (see table 4).

Table 4. Measures Needed to Determine Ability of the Project to Cover Recurrent Costs

Measures	Justification	Type of data needed	Sources
Probability that aggregate level of revenues will cover the recurrent expenditures needed to continue benefit-generating activities.*	If the expected revenues do not equal recurrent costs, the activities necessary to generate benefits cannot be sustained.	Estimation of financial outlays that are necessary to continue project activities: annual budgets.	Review of documentation, esp. administrative and financial reports.
		Estimation of financial revenues that can be expected as a means of meeting recurrent costs. This involves examining each source of potential revenues:	
		• Percentage of recurrent expenditures to be covered through project receipts, including revenues from sale of project outputs, user charges, fees, beneficiary contributions, etc.;	Interviews with project staff, beneficiaries, local community leaders, etc.
		• The estimated probability that revenues will be generated through receipts, user charges, etc., based on evidence of the use of these approaches during implementation, the willingness and ability of the beneficiaries to pay the charges, etc.;	Review of project documentation, especially administrative and financial reports.
		• Percentage of recurrent expenditures to be covered through local government revenue generating activities (taxes, fees, etc.);	Interviews with local government officials, project staff, taxpayers and beneficiaries
		• Estimated probability that local government revenues can be tapped, based on a willingness and ability of local governments to generate revenues and apply them to the project's needs, as well as local revenue collection experience;	Observation, use of key informants.
		• Percentage of recurrent expenditures to be covered through additional donor contributions;	Interviews with project staff, national level officials, and staff of various donor agencies.
		• Estimated probability that donor funds will be available to cover recurrent costs;	
		• Percentage of recurrent expenditures to be covered by government agency or institution currently implementing the project.	Interviews with project staff and national level agency officials.

(continued)

Table 4. (continued)

Measures	Justification	Type of data needed	Sources
		Estimated probability that this entity will have adequate budgetary funds to continue implementation. This estimation can be based on: • Relative growth of institutions budget and mandate over the life of the project; • Size of the institution's budget relative to the future needs of the project; • Timeliness and adequacy of the delivery by the institution of funds and resources during project implementation; • Growth of host institution portion of project budget during project implementation relative to design expectations.	Review of project documentation, especially administrative and financial reports and correspond-
		Percentage of recurrent expenditures to be covered through support by other government agencies or institutions. Estimated probability that national level revenues will be forthcoming from these institutions. This estimation can be based upon: • Awareness by policy makers that their institution is expected to pick up recurrent costs after outside funding ends. Their awareness of the amount and type of funding required; • Evidence of viable plans for transferring project activities to an institution or government agency; • Evidence of a graduated shift of the recurrent cost burden to the host government during project implementation.	Interviews with project staff and national level officials of government agencies or institutions involved.
Probability that the private sector will take over some benefit-generating activities.*	If the private sector will perform some of the activities critical to benefit-generation in the future, the burden of financing the recurrent costs of these activities will rest on their shoulders.	Evidence that there are private entities already performing related activities. Evidence that financial incentives exist which would ensure that private firms take over and continue these activities.	Interviews with project staff, local community leaders, local merchants and businessmen. Observation, use of key informants.

Table 4. (continued)

Measures	Justification	Type of data needed	Sources
Probability of subsidy continuation.*	After the termination of outside aid, such subsidies (e.g. use of free facilities, seconded personnel, low cost acquisition of inputs, high staff salaries) often can not be continued. Hence real project operating costs will increase. The greater the proportion of the "undependable subsidies" relative to total project costs, the greater its potential threat to benefit sustainability.	Identification of what is being subsidized (e.g. personnel, services, inputs, etc.), who is receiving the subsidies, and how much they amount to. (Each subsidy within a project must be examined individually, since some will be more amenable to rectification than others depending upon the type and amount of the subsidy and who is benefitting from it).	Review of project documentation, especially administrative and financial reports. Interviews with project staff.
		Calculated value of each of the subsidies identified above, based on the cost of the services/resources on the open market (e.g. how much it would cost to rent office space if public facilities were no longer available).	
		Estimated probability that such services would continue after the project ends, based, for example, on a comparison of project service cost/beneficiary with that in other areas, political importance of the target group or region for the government, etc.	Interviews with project staff, government officials and administrators of institutions providing subsidized services/resources presently.
Evidence that subsidies are being phased out over the life of the project.	If subsidies are phased out during project implementation, the threat they pose to benefit sustainability will be reduced.	Evidence that measures have been initiated to reduce or eliminate subsidies (e.g. through the initiation of user charges, increases in output fees, or the payment of real costs for project inputs).	Interviews with project staff, community leaders, beneficiaries. Review of project documentation, especially administrative and financial reports.
		Awareness by project staff of the need to phase out subsidies (e.g. percentage of staff agreeing that subsidies are a problem and able to identify subsidies in their own operations).	Observation, use of key informants.
		Expressed willingness of beneficiaries to shoulder the increased costs of the services they receive. Level of beneficiary participation, use of services offered, etc. without the subsidy as opposed to that level experienced when the subsidy was included.	

Note: *Probability can be calculated with judicious use of Bayesian probability analysis. See, for example, Fennessey (1974).

Source: Compiled by the authors.

If aggregate financial outlays exceed revenues, the probability of needed activities continuing is questionable. Thus projecting an annual budget is one element of the analysis. An analysis of the probability that the necessary revenues will be forthcoming is another (Wolgin, 1981; Gray and Martens, 1980).

Revenue sources must be located before they can be tapped. The inability to identify possible sources of future funding would be one indication of potential sustainability problems. Whether a given source is relevant to a project or offers potential for future financing, will depend upon the nature of the activity being undertaken and the setting in which the project is operating. Once a potential revenue source has been found, its reliability must be evaluated. This would involve an evaluation of any plans for transferring funding responsibilities to the new source, and the identification of any institutional obstacles to collecting the revenues or channeling them to the project. Any estimate of potential revenues must be done in a comprehensive manner, however, to avoid having several projects or activities counting on a single limited revenue source for future funding. Occasionally, project design documents will identify alternative scenarios for the continuation of activities after the project itself ends. The inability to take advantage of revenue sources initially identified also merits close attention, since the causes may be relevant to the alternatives being considered.

Alternative revenue sources include:

- Project receipts, including those from user charges and beneficiary contributions;
- National agency budgets;
- Local government revenues/taxes;
- Further donor contributions; and,
- Private sector initiatives.

The project itself can be a prime source of recurrent cost financing. Where its receipts exceed its operating and maintenance costs, a project will generate sufficient revenues to pay for itself. In such cases, project activities could be maintained indefinitely. User charges for services provided is one obvious source of project revenues. Persons benefiting from a service should be willing to pay for at least some portion of service costs. If this is not the case, questions should be raised as to whether or not the service is yielding any benefits.

In the short run, however, beneficiaries may be unwilling to pay user fees adequate to fully cover the costs of the project or activity. Often, this is because it is too early for them to perceive the long-term benefits. Further, where free services have traditionally been provided, it may be extremely difficult to introduce user fees. In some cases, it may be necessary to structure rates to allow for differing payment abilities, in order to ensure that those unable to pay fully for service benefits are not excluded. Where the beneficiaries are very poor, their ability to contribute may be strained by a large number of self-help endeavors, even though, individually, the projects do not charge excessive rates.

Host government agencies or institutions are another source of revenues to sustain project activities. These can be the same institutions involved with the project during implementation or altogether different ones. An assessment must be made of the willingness and ability of an institution to shoulder the financial burden of project activities. Responsibility for the maintenance of secondary roads constructed by a project in Africa, for example, was to be given to the national agency responsible for the construction and maintenance of primary roads. However, that agency had neither the mandate nor the resources to maintain secondary roads. Consequently, it could not provide the assistance expected.

Another possible revenue source includes funding by another international donor, as part of a multi-phase approach. Similarly, lower level government resources can be tapped. Frequently, project services have a limited area focus. As a consequence, local government revenue collections are often a more appropriate source of financing that the central government budget.

Finally, some project activities may be turned over to the private sector. Consideration must be given, however, to whether a private firm would continue to use project resources to serve the same set of beneficiaries as the project and to the same extent. In some cases private profit-making firms will be more efficient than public concerns, but they seldom have the same objectives. However, when beneficiary groups obtain control of a central set of natural resources, such as woodlots, water, or forestry preserves, they can usually generate revenues. In the end, then, the revenue source selected to cover recurrent project costs will depend upon the characteristics and environment of the individual project.

Aside from the obvious financial requirements necessary to cover recurrent costs and sustain critical activities, consideration must be given to the existence of hidden subsidies. The possibility that such funds may not be available after a project officially ends must be considered in the calculation of the cost of a project or activity. Activities can be subsidized

in a number of ways: for example, a project or activity can make use of facilities, staff, or vehicles paid for through other accounts. Similarly, subsidies can be built into a project via the below-cost acquisition of raw materials or inputs. The observation of project activities and interrogation of project staff would be the most effective means of obtaining information on input prices and availability.

In some cases market prices can be identified or a shadow price calculated which, when compared with the subsidized price, will allow the calculation of the subsidy per unit or per beneficiary. Tractor services, for example, may be provided by private sources at a lower cost than that of the government (once all of the hidden costs of government production are taken into account). Similarly, the international market price of imported inputs such as fertilizer can be used to determine the true cost of those inputs. Macroeconomic statistics available from international banks, donors, or the host governments themselves can be expecially useful in obtaining such data. Design documents often have economic analyses to which current estimates can be compared. Interviews with host country staff, expatriate technicians, and government officials can also help identify hidden subsidies.

Is There Adequate Individual or Institutional Capacity?

In examining the capacity of the institutions and individuals to sustain project benefits, several factors must be considered:

- The history of the organization in attracting and making effective use of resources;
- The technical skills of its staff;
- The organization's performance in managing and administering the manpower and material resources at its disposal; and
- The problem-solving practices of the staff.

The ability of an institution to attract and maintain a flow of resources can be measured by looking at the resources already on hand, or by examining staff efforts to generate more revenues (see table 5). Indicators of the stock of resources of an institution include the number of staff available to perform critical functions, the institution's budget and growth over recent years, the amount and type of equipment it possesses, and the quality of its facilities.

The ability of an organization to attract resources is also evidenced by the efforts actually being made by staff members to identify and tap alternative sources of funds, including the use

Table 5. Measures to Assess Individual and Institutional Capacity

Measures	Justification	Type of data needed	Sources
Amount of personnel available to the institution taking up benefit-generating activities, as a percentage of post-project needs.	If the resources that will be available once outside funding ends are not sufficient to carry out the tasks assigned, benefit-generating activities will not continue.	Number of staff necessary to perform critical functions (both technical and administrative) after the project ends. Number of staff currently available and qualified to perform the critical tasks identified. The quality of the staff can be based upon, for example: • The number of years experience among the staff; • Level of academic training they possess in key fields; • The performance of host country personnel in taking over jobs formerly performed by expatriates. Probability that the project will fail if one or more key individuals leaves. Probability that project personnel will be available after outside funding ends (see table 6). Number of staff positions that remain unfilled. Turnover of personnel (see table 6). Average length of time staff have been with the project. The probability that needed additional staff will be trained prior to the cutoff of outside aid. Estimates can be based on: • Percentage of future manpower needs being trained under project; • Presence of counterparts for expatriate advisors; • Evidence of effective on-the-job training provided to host staff by expatriates (e.g. percentage of host staff who feel that on-the-job training was good, ability of counterparts to explain to the evaluator what they learned); • Adequacy of the training program, e.g. length, relevance to project needs, and timeliness (i.e. do the trainees return before the expatriate team leaves?).	Review of project documentation, including administrative and financial reports. Interviews with project staff, government officials. Interviews with beneficiaries for assessment of staff quality.

(continued)

Table 5. (continued)

Measures	Justification	Type of data needed	Sources
Amount and type of physical resources (e.g. facilities, vehicles, and supplies) available as a percentage of post-project needs.	If the resources that will be available once outside funding ends are not sufficient to carry out the tasks assigned, benefit-generating activities will not continue.	Amount and type of physical resources necessary to carry out critical benefit-generating activities once outside funding ends. Stock and quality of physical resources currently available. Probability that these resources will be available after outside funding ends (see table 4).	Review of project documentation, including administrative and financial reports. Interviews with project staff, government officials. Interviews with beneficiaries for assessment of staff quality.
Amount of financial resources available as a percentage of post-project needs.	If the resources that will be available once outside funding ends are not sufficient to carry out the tasks assigned, benefit-generating activities will not continue.	Estimated budget needed to carry out critical benefit-generating activities once outside funding ends. Budgetary funds available at time of evaluation to finance project activities. Probability that those budgetary resources will continue to be available once outside funding ends. (See table 4).	Review of project documentation, including administrative and financial reports. Interviews with project staff, government officials.
Whether project staff are actively concerned with attracting additional resources.	If a project staff has been successful at obtaining additional resources during implementation, there is a greater probability that they will be able to attract resources to fill the void created by the termination of outside funds.	Evidence of attempts (preferably successful ones) by staff members to seek out and exploit additional sources of funds, e.g. use of revenue generating activities, contacts with donors.	Review of project documentation, especially administrative and financial reports. Interviews with project staff.
Ability of the institution to manage efficiently the resources at its disposal.	A level of resources normally adequate to carry out a task will not be sufficient if it is not deployed efficiently. When this occurs, the recurrent costs of an activity increase and potential revenues decrease.	Cost-effectiveness of the technology or delivery system used (see table 1). Size of the administrative staff relative to total project staff, number of activities involved, number of beneficiaries, etc.	Review of project documentation, especially administrative and financial reports. Interviews with project staff.

(continued)

Table 5. (continued)

Measures	Justification	Type of data needed	Sources
Management ability of institution (continued)		Evidence of inefficiencies in management or resources (e.g. high degree of slack time, lack of coordination, etc.).	
Ability of the staff to anticipate and solve problems.	Benefit sustainability will be affected by future activities which cannot be foreseen. The greater the ability of project staff to adjust to these uncertainties, the greater the chances that benefits will be sustained.	Ability of project staff to objectively assess the strengths and weaknesses of their program and its performance. Evidence that project staff have considered the problem of what will happen to project activities once the project ends.	Interviews with project staff.

Source: Compiled by the authors.

of revenue-raising activities to obtain supplementary funding. Information on such activities is available from project records and through interviews with project staff.

Another aspect of institutional capacity is the technical competence of the personnel within the institution. One component of this is the current level of expertise.

A second aspect is the preparation for future needs through training. This includes indicators such as the percentage of future project manpower needs being trained under the project and the amount of on-the-job training being provided by expatriate technical assistance personnel. The opinions of beneficiaries can be useful in evaluating the quality of project staff, but observations of performance are much more reliable.

Institutional capacity also depends upon the ability of the organization to manage and monitor the resources at its disposal. The size of the administrative staff relative to the task at hand is one indicator of the capacity of the organization. In some cases a project will suffer from a bloated top level management structure. In other cases, evidence of inefficiencies in past or current resource use will indicate potential problems. For example, the amount of slack time in the employment of equipment or vehicles or idle project staff time can be symptomatic of underlying procedural, incentive, or leadership problems.

Another component of institutional capacity is the ability of the staff and institution as a whole to anticipate and solve problems. This is much harder to measure, however. One indicator is the ability of project staff to objectively assess the strengths and weaknesses of their program and its performance. That is, do they embrace error and learn from it, or do they hide failure and repeat mistakes? Another proxy is the amount of attention project personnel have already given to the question of how benefits will be sustained once the project ends. Questioning project staff would be the best method for addressing this issue. Whenever possible, however, past performance should be used as the basis for inferring future potential.

How Do Incentives Influence Performance?

Though the provision of resources is crucial to the sustainability of project benefits, it is not sufficient. Incentives are necessary to ensure that the institutions and individuals play their roles in benefit delivery.

The examination of how incentives affect the potential for the sustainability of benefits requires three foci: institutions; staff; and beneficiaries (see table 6). With respect to institutions, information on the amount of cooperation received by those agencies and organizations involved in the project is needed.

Data on indicators such as the level and timeliness of support to the project (for example, the number of personnel and amount of resources seconded to the project) can be obtained from reviewing project reports and discussions with staff members. Similarly, information on the existence of inter-organizational conflicts must also be sought. This can be done through discussions with host government personnel aimed at identifying the perceptions that the various groups involved in implementing a project have of one another.

Similarly, evaluators must look at the incentives for project personnel to both staff the project and continue delivering the goods and services needed by the target group. For personal and professional reasons, host staff rarely stay with a given project or activity a long time. Frequently, they are transferred by their agencies to other areas or regions, to meet changing government priorities and commitments (such as staffing new donor-funded projects). From the perspective of the individual himself, the benefits of being assigned to the national headquarters of an agency, or in a major urban center, are greater than those entailed in working in a backward rural area. Moreover, the incentives to continue in a job, such as the support received, possibility of promotion and the like, usually decrease once the project officially ends. Various indicators can be examined in order to predict whether staff will continue to be available once outside funding stops. These include the turnover of personnel during implementation, the salary levels they receive compared to outside opportunities, the percentage of staff originating from the project area itself, and activities presently in the planning stage which can be expected to draw people away from their present positions.

Finally, project beneficiaries must also have incentives to continue the activities which result in a flow of project benefits. Several indicators exist for measuring the level of beneficiary response or commitment. These include the use of project goods and services as compared with the expected usage, repeat users of these goods and services, participation in project decision making by beneficiaries, and beneficiary commitment of resources to project activities.

Discussions with project staff and the beneficiaries themselves can shed light on these factors. An examination of project records can help determine the level of participation, while project-generated reports should provide the information necessary to estimate the financial return of the project to the beneficiaries.

Table 6. Measures for Assessing the Importance of Incentives

Measures	Justification	Type of data needed	Sources
Percentage of seconded persons, resources, or funds from "cooperating" government agencies and organizations which actually arrived on a timely basis.	Delays in the delivery of seconded resources could indicate a lack of commitment on the part of cooperating institutions which will probably become more serious once outside funding ends.	Expected number of personnel to be seconded to the project from other agencies. Number of seconded personnel who actually arrived on a timely basis and performed as expected. Number of vehicles or amount of equipment to be seconded to the project from other agencies. Number of vehicles or amount of equipment actually delivered on a timely basis. Expected amount of funds to be provided to the project from other institutions. Amount actually provided on a timely basis. Length of delays entailed in delivery of the above resources.	Project administrative and financial reports and correspondence. Interviews with project staff, host government officials, staff of cooperating agencies.
Seriousness of inter-organizational conflicts in impeding project implementation.	A high level of inter-organizational conflict implies that the incentives to other organizations to cooperate to ensure project success and benefit continuation do not exist. After outside funding ends, such conflicts will probably intensify and even more seriously impede benefit sustainability. Unless, of course, conflict is lower because no one cares, i.e. the project is no longer providing any benefits to the institution or its clients.	Percentage of project staff who criticize other agencies' lack of cooperation as an impediment to project success. Percentage of staff from "cooperating" agencies criticizing core project staff, or the project's strategy, implementation, objectives, etc. Percentage of personnel from cooperating agencies voicing enthusiasm for the project (both staff members and administrators).	Interviews with project staff, government officials, staff of cooperating agencies.
Parity of project salary levels with those of other agencies and the private sector.	A large difference between the project salary levels and wages paid for similar types of work in other agencies or in the private sector may be a problem for benefit sustainability. If project salaries are too low, staff may leave to take advantage of other opportunities. If project	Salary levels for various categories of project staff (e.g. extension agents, researchers, nurses, administrators). Salary levels for similar job categories in related government agencies and in private firms or organizations which employ persons in those job classifications.	Project financial and personnel records, administrative reports. Interviews with project staff, administrators of other government agencies, professionals and managers in the private sector.

Table 6. (continued)

Measures	Justification	Type of data needed	Sources
	salaries greatly exceed those available elsewhere, it may be difficult to maintain them at that level.		
Rate of financial return of the new technology or service to the beneficiaries.	If the rate of return is too low, the beneficiaries will not adopt the technology or use the services offered. (Note: Not all development activities will lend themselves to an analysis of financial return to the individual).	Costs to the beneficiary of using the technology or service (cash investment, land, labor, and capital costs). Estimated level of economic benefits received by the beneficiary as a result of using the technology or service.	Project-generated financial analyses, reports presenting the results of farm budgets, household surveys, etc.
Rate of increase or decrease in the percentage of beneficiaries using the technology or services (as compared with the levels projected in the project design).	If beneficiary demand is decreasing during implementation, this trend will probably continue or worsen once outside funding ends.	Number of beneficiaries using the technology or services at various points over the life of the project. Growth of beneficiary use of the technology or services predicted in the design documentation (Note: design predictions are often optimistic. The realism of the original predictions must also be examined).	Project administrative reports, design documentation. Observation, use of key informants.
Evidence of sustained demand by beneficiaries.	Can serve as an indication of the value that the beneficiaries place on the benefits they receive and the quality of those benefits.	Evidence of repeat usage of the technology (e.g. the use of health facilities over a period of time, farmers' use of agricultural technology in subsequent years) when such repeat usage was expected in the project design. Measurement of amount and type of repeat usage, for example, by: • Percentage of beneficiaries using the service or technology more than once; or, • Average number of times a service or technology is used by a given beneficiary unit (individual, family, etc.) over a specified period of time.	Administrative and financial reports. Interviews with project staff and beneficiaries.

(continued)

Table 6. (continued)

Measures	Justification	Type of data needed	Sources
Commitment by project beneficiaries of their own resources to carry out project activities.	Can serve as an indication of the value that the beneficiaries place on the benefits they receive and the quality of those benefits.	Amount of manhours and materials (in local monetary equivalents) and funds provided by beneficiaries to implement project activities (e.g. construct a health clinic) as a percentage of total costs (both for installation and operation).	Administrative and financial reports. Interviews with project staff and beneficiaries.
Probability that project staff will remain with the project once outside funding ends.	A high probability that key project staff will remain in the project area will increase the chances of benefit sustainability.	Level of staff turnover: • Percentage of staff who have been with the project since its initiation; • Percentage of staff who have been with the project for at least one year. Percentage of staff with ties to the project area: • Percentage of staff who originally came from the project area; • Percentage of staff who were seconded from local or district, as opposed to national, agencies. Expressed willingness of project staff to remain in the area, even if the project itself starts. Probability that staff will not be transferred by their agency: • Who controls personnel transfers and what incentives do they have to keep people in the project area--examine personnel policies of ministries involved in project implementation and past history of transferring personnel; • Average tenure of agency staff in a given assignment by type of activity; • Identification of common career paths for professional staff (e.g. examine career histories of current department heads).	Project administrative reports and personnel records. Interviews with project staff. Review of ministry personnel policies, civil service regulations, etc.

Source: Compiled by the authors.

Has A Reasonable Time Been Allowed to Generate the Benefits?

In assessing the adequacy of the lifespan of the project, the amount of time allowed for project implementation (taken from project design and implementation reports) must be compared with (1) the amount of time needed to complete and sustain project activities, and (2) actual implementation performance (see table 7).

It takes time to create a viable beneficiary organization or rural health clinic, train host staff, develop a new seed variety, or construct a small-scale irrigation system. Estimates of just how long such activities take can be obtained through discussions with experts or a review of literature (including the performance of similar projects in the past). Various activities will take longer to complete than others, while certain types of projects will require a longer commitment than others.

If a project does not take these facts into account, serious sustainability problems can arise. For example, one four-year agricultural research project was designed to test and evaluate citrus, coffee, and cocoa as potential crops for small farmers. However, these crops require from four to six years just to come into production, and another two or three years to assess their profitability. Consequently, the time allowed did not even permit the completion of the research, much less ensure that any findings would be used (Crawford, 1982: 56).

A comparison of the project schedule with actual performance can also shed light on delayed achievement. Delays can not only undermine the success of the activity itself, but delays in one component or activity might very well undermine the success of components which are on schedule, thus affecting the entire effort.

The performance of the project with respect to the phasing or sequencing of activities can also be clarified by discussions with project staff and beneficiaries. Evaluators can look for indicators of inadequate forward planning. One example would be the necessity of continually rescheduling project activities and modifying targets. Another indicator would be the decay of facilities and equipment or a decline in beneficiary enthusiasm resulting from the failure of project staff to use or take advantage of them.

Table 7. Measures for Assessing the Adequacy of the Project's Time Frame

Measures	Justification	Type of data needed	Sources
Difference between the time permitted in the project implementation plan to complete project activities and that estimated as necessary to create sustainable benefit flows.	If the length of time generally needed to complete project activities (e.g. so many years for the creation of viable irrigators associations) exceeds that permitted in the project design, the chances of those activities being sustainable is diminished.	Length of time allowed in the project design to conduct project activities (prior to the termination of foreign aid and the departure of technical assistance personnel). Factors of particular importance include time needed to: • Place technical assistance personnel and deliver commodities; • Develop a working relationship and rapport between the expatriates and host staff; • Train host staff; • Construct needed infrastructure (roads, clinics, staff housing and offices, etc.); • Establish contacts with project beneficiaries; • Conduct research and test research program results; • Train beneficiaries in new skills; • Create viable beneficiary organizations; and, • Generate adoption of technology.	Project design documents, implementation plan.
		Estimated length of time generally needed to complete activities such as those above and ensure their continuation after the project, per se, ends. These estimates are based on past experience with these activities in similar types of situations.	Development literature, reports from similar projects, interviews with experts on the various activities (either from donor agencies or from the host government).
Present implementation as compared with project design or implementation plans.	When project implementation falls seriously behind the schedule laid out in the project design or implementation plan, it calls into question the realism of the original plan or the performance of the implementation team. In either case, it indicates that the project implementation schedule must be carefully examined.	Actual level of achievement of project objectives. Expected level of achievement of project outputs.	Most recent evaluation. Project design and implementation documents.

(continued)

Table 7. (continued)

Measures	Justification	Type of data needed	Sources
Amount of rescheduling necessitated for various types of activities.	If a great deal of rescheduling has been necessary, it is indicative of problems with the sequencing or phasing of project activities.	Evidence that project activities have had to be rescheduled, or that some activities have not proceeded according to plan because of delays in other components or activities. Evidence of the decay of facilities, equipment, etc. due to non-use or the decrease in beneficiary enthusiasm due to loss of momentum (attributable to delays in project implementation).	Project implementation documents, especially implementation reports.

Source: Compiled by the authors.

Finally, projects often expect that a second phase or stage will be initiated which will continue the project. Discussions with project staff, host governmental personnel, and donor agencies can shed light of the possibility of this occuring. Some consideration must be given to examining what would happen if an expected second phase does not materialize. Though occasionally benefits might continue, though at a lower level than anticipated, in other cases few or no benefits would result. It is even possible that terminating project activities prior to their completion would leave the beneficiaries worse off than before the project began.

CHAPTER FOUR

DATA COLLECTION TECHNIQUES

This chapter focuses on data collection approaches that are appropriate for evaluating benefit sustainability, as part of, or subsequent to, a formative evaluation of project performance. Such an evaluation can be undertaken by outside observers or the project staff itself.

The type of data collection method used will depend upon the type of data to be collected. Alternative methods should be compared in terms of the cost involved in collecting the data, the time necessary to do so, and the quality of the data. There are tradeoffs among these factors. For example, when the study must provide precise answers to questions, the time and cost of the data collection effort increases. This is because ensuring validity will require increasing the size of the sample, training enumerators more thoroughly, providing crosschecks in the data, and so forth. Similarly, if the study must be completed quickly, either the cost of collecting the data will increase or the quality of the data collected will decrease.

Multiple data collection approaches can be used to gather the information needed to measure benefit sustainability. The most appropriate are:

- Analysis of documents;
- Observation;
- Direct and indirect measurement;
- Confidential interviews and sample surveys;
- Use of key informants;
- Group interviews; and
- Workshops.

These techniques will be discussed in greater detail below. They will be the primary methods used for collecting the data needed to answer the questions posed in the preceding chapter. Table 8 lists the techniques and summarizes the advantages and disadvantages of each. This is a set of techniques. No single data collection method is adequate to collect all of the information needed. Rather, to the extent possible, several of the approaches may need to be employed. Moreover, the use of multiple data sources and alternative collection approaches can help verify the data collected and eliminate contradictions.

Table 8. Data Collection Methods for Measuring Sustainability

Data collection approach	Advantages	Disadvantages
Record examination	Language barrier is lessened	Records are often inaccurate, or inappropriate
	Documents can be reviewed at convenience of interviewer; does not disrupt staff activities	Difficult to estimate sample bias
		Limited range of variables covered can be very time consuming
Direct observation	Provides primary data	May be confounded by investigator's presence
	Does not disrupt staff routine	Susceptible to misinterpretation by researcher
	Can avoid much informant bias	May contain seasonal bias
	Can expose data not anticipated by investigator	Lack of representativeness
	Low cost	
Confidential interview	Protects informer	Usually highly biased
	Allows access to examples of actual dynamics	Emotionally taxing
	Increases extremes and range of perspectives	Requires leads from, other informants
		If interpreter is required, protection is lost, interpreter may filter information
		Sample may be limited or confidentiality impossible in some settings

(continued)

Table 8. (continued)

Data collection approach	Advantages	Disadvantages
Key Informants	Useful in clarifying issues, testing conclusion of the investigator	Bias or perspectives of key informants may have undue influence on results
	Acts as filter to avoid culturally objectionable questions or data gathering techniques	Excessive time may be required to identify the best informants
	Key informant linked to key decision makers can help prepare atmosphere for report	Some informants may alienate potential actors who are key to implementing recommendations
	Involvement in process build skills of informant	Rapport between key informants and evaluators is essential
Group Interviews	Facilitates participation and exposes interpersonal dynamics	Minimizes extremes and range of perspectives by inducing consensus
	Increase accuracy of meanings imputed by researchers	Emotionally taxing
	Increase sample representativeness	May require interpreter
	Generates data beyond interview design	Exposes views of informeres
	Low cost	Susceptible to domination by a strong personality
	Can begin dialogue among participants	Disrupts staff activity

(continued)

Table 8. (continued)

Data collection approach	Advantages	Disadvantages
Workshop	Builds capacity as well as serving as information collection technique	Costly in terms of staff or beneficiary time and effort
	Promotes investment in and receptiveness of results on the part of participants	Requires scarce facilitative skills for evalutors
	Can lead directly to identification of strategies to improve situation	Status difference among participants may affect attendance
	Communicates information to decision makers as simultaneous part of collection process	
	Can produce formal commitments, recommendations or analyses based on group effort	

Source: Compiled by the authors.

Documentary Data Sources

Some data are usually available in written form. Feasibility studies, design documents, evaluations, administrative reports, project generated surveys and studies, sector papers organizational by-laws, and marketing studies are some examples. Documents such as these may be produced by the project, host government, donor agencies, or outsiders.

The examination of written records can be useful as a means of identifying project goals. It can also be used to measure the level of input delivery, such as the amount of funds, number of staff, vehicles, and resources deployed. Reviewing written material can also be used to measure the achievement of output objectives, such as the number of farmers trained, the yield of improved crops, or the miles of road constructed. The evaluator can then compare or contrast this information with subsequent observations and data collected, in order to gain insights relevant for an assessment of project sustainability.

The evaluator can also search for inconsistencies between data sources. Information from written records, such as financial statements, receipts for gasoline usage, site visit reports, etc. may be inconsistent with that received from interview or other sources. Finally, inconsistencies within the written records themselves or the absence of data can indicate serious problems with project design or implementation performance.

On the one hand, documents and other records are often incomplete or inaccurate, and it is difficult to estimate the degree of their inaccuracy. Moreover, written records cover a limited range of variables and, most importantly, contain little information on actual behavior patterns. Written records have advantages over other data sources, however, in that they provide "hard" data which can be referred to during the write-up of the evaluation report. Further, it does not tax the evaluator as much as interpersonal data collection techniques and its use is less affected by language barriers. Another advantage is that written records give the evaluator a "flavor" of the evolution of the project, the problems encountered, and the ways in which they were handled. A review of written records, thus serves as a starting point for evaluators by opening avenues of inquiry.

In recent formative evaluation of the AID-funded North Shaba Rural Development Project in Zaire, which dealt with the sustainability issue, the most useful documents were found to be:

- The project director's annual report;
- End-of-tour reports by departing expatriate advisers;
- Reports produced by the monitoring and evaluation unit; and

- Monthly reports written by various subsystem heads.

Consultation of records should not be confined only to those which deal specifically with the project being evaluated. The likelihood is that there are similar projects facing similar problems in other parts of the country. In the case of Zaire, the World Bank is financing a project similiar to the North Shaba Rural Development Project in an adjacent region, and the documentation from that project proved useful. In addition, more general reports such as country development strategy statements, sector reviews, donor appraisals, academic studies, and the like can often be very useful for placing a specific project in the broader context of national policies and constraints.

Marketing studies can also be a useful tool in evaluating the sustainability of project benefits, especially for estimating the demand for the goods and services offered by the project. Such studies will examine, for example, consumer tastes and preferences, the size of the market, marketing channels, competition, quantity and price trends over time, and price and income elasticities of demand. When marketing studies are available, they should be used. If they do not exist, it may be necessary for the evaluators to collect the data themselves. This might require several other data collection techniques, including survey work, such as household consumption surveys for example, and direct measurement (such as fluctuations in prices and quantities sold over time).

Observation and Indirect Measurement

Observations of project operations, settings, and behavior will reveal information which is not discussed in the project documentation and which the participants may not provide either through a failure to recognize its importance or a reluctance to provide it. Examples include actual (as opposed to reported) participation, the identification of clients, the nature of the interaction between clients and project personnel, the quality of training and other services, and the adequacy of facilities. Visual discrepancies between reality and either the documents or staff-provided information can be important in identifying sustainability problems. Observation is a way of avoiding the threat to validity which can occur as a result of the interaction between the researcher and the subject.

When desired, however, the researcher can mix pure observation with either individual or group interviews. An advantage is that, in their natural setting, project staff, farmers, merchants, and so forth will be more relaxed and open with outsiders. On the other hand, even observed behavior may be affected by the evaluator's presence. Moreover, observation may be susceptible to misinterpretation. Observers, for example, may draw inaccurate conclusions from what they observe, especially individual behavior.

By actually viewing project activities and data collection in operation, an evaluation team can get some appreciation of the problems involved in both undertaking those activities and collecting data. During the evaluation of the North Shaba Project, for example, the evaluators were able to accompany project personnel to farmers' fields where yield estimates were being made. By doing this, the evaluation team was made aware of many of the problems involved in obtaining reliable yield data. These included measurement problems such as the importance of measuring accurately the plot to be harvested, the humidity factor, and the conversion factor for shelling.

Many types of data can be measured directly, using standardized units of measurement. Examples include production per hectare, kilometers of roads constructed, distance from the nearest health center, soil conditions, and population concentrations. The use of standardized measures means that the dependence upon the judgement of the data collector is minimized, and thus the data collected is relatively free from interviewer bias. However, in some cases the measurement scales used may be inappropriate to local conditions, or the measurement itself may be difficult to perform (such as measuring food intake in cultures where individuals eat from a common bowl) (Kearl, 1976). Further, for some types of data, direct measurement may be to costly to carry out, or unacceptable for social or cultural reasons.

Indirect measurement, involving the use of unobtrusive measures (that is, proxies and key indicators), is another approach which is useful for assessing benefit sustainability. Unobtrusive indicators have proven especially useful in measuring improved welfare in and around a project area. For example, in Malawi one official used two proxies to determine the degree to which a government project was benefitting the people in the area. These proxies were soap inventories in the shops of village merchants within the project area, and the appearance of new bicycles and sewing machines in areas adjacent to project activities (Honadle, 1979; Chambers, 1981).

Simple proxies can be misleading, however, if their contextual validity is not examined. One means of overcoming this problem is to use multiple indicators to minimize incorrect inferences. Further, a cross-check can be conducted by asking informants about local factors that might distort an indicator's validity. The assumptions that tie the proxies to the phenomena should be articulated and tested against local perceptions. This would permit inappropriate indicators to be discarded and valid indicators to be generated from local usage and knowledge.

Interviews and Surveys

In order to collect data on actual behavior, attitudes, past experiences, unstated policies, and so forth, interviews can be used. These can be either open- or closed-ended, depending upon the needs of the interviewer. In examining benefit sustainability, interviews may be useful not only with project staff and beneficiaries, but also with government officials, community leaders, local merchants and the donor staff.

While interviews can provide information on a wide range of sustainability issues, the information received will often be biased to some degree. Informants will have ulterior motives and the information that they do possess will be incomplete. Determining the existence and degree of these biases is one of the tasks of the investigator. All interviews must begin with the assumption of biased response and the need to uncover the bias. This requires crosschecks and the use of multiple sources and types of data. Additionally, the informant and the data must be matched, with questions geared to the competence of the person providing the information. For example, donor staff may not be the best source of information on host government organizational dynamics, and past income estimates cannot be based solely on beneficiary memory.

In order to ensure an adequate level of confidence in the data being collected through interviews, it may be necessary to select the respondents randomly, using survey research techniques. This is especially true when the "population" from which the respondents are selected is large. For example, it will usually be impossible to interview a large percentage of a project's beneficiaries to determine their collective willingness to pay for project-generated benefits. Consequently, a random sample of beneficiaries will have to be selected and interviewed. A random selection of the respondents will ensure the representativeness and freedom from bias of the data collected. In some cases, the stratification of the sample may be necessary. For example, in measuring the willingness to pay for services provided by an activity, stratification by "ability to pay" or "users/nonusers" would increase the probability that the results accurately portray the sentiment of the beneficiaries as a whole. Other examples of data from which survey techniques may be useful include: The amount and distribution of benefits, the prices farmers receive for their production, and repeat usage of the services offered.

Key Informants

Key informants can be identified from among host government project personnel, expatriate technicians, farmers, or local community leaders who are informed about the project, to work with outside evaluators throughout the evaluation. They can then assist in clarifying issues, assessing the validity of indicators,

data collection approaches, and data sources, as well as provide information that might be inaccessible to an outside evaluator. Further, a key informant can help the evaluator in distinguishing between what is common and what is the exception.

The disadvantage of using key informants is that their biases or perspectives may unduly influence the results. Moreover, it may take time to develop the rapport necessary for the informant/evaluator relationship to provide fruitful results. Finally, while the involvement of project staff, for example, may help increase receptivity to the report, the selection of individuals who are not respected or trusted as informants may alienate decision makers who are key to implementing the recommendations that flow from the evaluation.

In an evaluation, several key informants are usually essential. This is partly to counteract the inevitable biases. Moreover, if it is a complex project, no one person will have all the necessary information. Further, those who are very enthusiastic about the project should be counterbalanced by those who are somewhat critical. Key informants should be sought from outside the project area. In the case of the North Shaba Project, large millers from outside the region who purchased most of the maize exported from the project area proved very helpful. They were the only people who could really explain the complexities of that country's maize pricing system.

Group Interviews

Group interviews have advantages over individual interviews in that they are less costly and increase the representativeness of the data collected. With group interviews there is greater probability the information received will be valid, as inaccurate information will be corrected by other participants. Also, some individuals, especially small farmers, may be uncomfortable or inarticulate in the presence of an interviewer. In a group, however, they may open up, since they are supported by their peers and can address their comments to each other rather than to the interviewer directly. Group interviews also provide an opportunity for the direct observation of group processes and the interactions of those who participate. They could also lay the groundwork of trust needed for individual interviews which might follow.

Group discussions can be used to stimulate debate about a project's strengths and weaknesses and what can and should be sustained. Such a dialogue often exposes variations in the interpretation of events, policies, and objectives. Consequently, the investigator must be equipped with, or able to develop, a logical sequence of questions that focuses participant attention on contingencies and refines their perceptions of decision criteria. One useful method of achieving this is to employ

hypothetical examples to elicit information on questions such as how leaders are chosen, how resources are controlled, and how conflicts are managed. Visits to farmer groups can be very rewarding, especially when they are structured as part of regular project activities. Such approaches also allow the investigator to penetrate the bureaucratic haze and uncover both formal and informal incentive systems which guide actual behavior.

On the other hand, group interviews can be emotionally taxing for the evaluators, susceptible to domination by a strong personality, and limited by language barriers. Moreover, in any group discussion an evaluator will be lost unless he or she has some background information on the key personalities in the group. Meeting with the key individuals in a group either before or after a meeting can minimize this problem.

Workshops

A workshop aimed specifically at addressing the question of what will happen once outside funding ends can serve as a valuable source of information for evaluators. Such a workshop might be most valuable after some preliminary investigation has been done, as a means of both refining the analysis and presenting the results. Structuring the data gathering process as a workshop encourages a closer involvement of the participants in the evaluation and provides them with a framework in which to consider and analyze their own responses. Moreover, since they will have a greater investment in the evaluative process, participants will probably be more receptive to the results. One disadvantage of the workshop approach is that it can be costly, expecially when a large percentage of the project staff is involved or the workshop lasts for more than one day. Moreover, participation by project staff or beneficiaries means that they will not be able to carry out their normal activities or assignments. The management of such workshops might also require facilitative skills which many evaluators do not possess.

Finally, a workshop can be important in that, aside from serving as a data collection device, it can help to build both a concensus and increased capacity among project staff and others to actually act on the results of the evaluation. This is, of course, necessary even when many critical decisions affecting benefit sustainability will be made by high level policy makers who are not directly involved in the project.

CHAPTER FIVE

APPLYING THE RESULTS

Once data have been collected, and the potential for sustainability has been assessed, recommendations should lead to action. Often, however, the results obtained in evaluation are never communicated to key decision makers, or, if communicated, these results are never acted upon. Stories of the dust-gathering function of evaluation reports are legion. They are also largely accurate.

This final chapter focuses on the remedial actions and recommendations which flow from an evaluation of sustainability. Basically, it addresses the question, "What can be done to enhance the prospects for action which supports sustained benefit flows?"

Results of the Data Analysis

An evaluation of a project for benefit sustainability can come to one of three conclusions:

- Project benefits appear to be sustainable and no modifications to the project's strategy or level of effort need to be taken to improve those prospects;
- Project benefits do not appear to be sustainable, and no remedial actions exist which can increase their potential significantly enough to be justified; and
- The potential for project benefits being sustainable can be increased if remedial actions are taken.

In the case where project benefits appear to be sustainable without modifications in the project, the task of the evaluation team should be to document why the various project activities will be sustainable and to determine their potential for replicability in other areas. Unfortunately, project evaluators often limit themselves to critiques of a project. However, as much, if not more, is to be learned from implementation success.

In the second case, that where benefits appear not to be sustainable and little can be done about it, the task of the evaluators is to convince project staff and decision makers that the project (or specific components) should be terminated. This, obviously, will not be an easy task. Some activities, even ones that are not sustainable, will have important backers. Cutting out

a specific component or activity may alienate those backers and threaten the rest of the project. Moreover, project staff, donors, local government officials and beneficiaries will have a vested interest (at least in the short term) in keeping project activities going. This will be the case even when these activities represent only a one-time resource transfer.

In the third case, evaluators have determined that the benefits being generated by all, or at least certain parts of the project can be sustained if specific recommendations are followed. In such a situation, the task of evaluators is to ensure that project staff and decision makers understand and agree with these suggestions, and that a program is developed to implement them.

Getting the Results Accepted and Acted Upon

In ensuring that the evaluation's recommendations are followed, evaluators must accomplish three tasks:

- Sensitize project staff and decisionmakers to the importance of benefit sustainability and make them aware of the limitations in their current approach;
- Obtain some degree of consensus among the principal actors involved, including project administrators, host government staff, and donors as to an adequate approach to improving benefit sustainability; and,
- Develop a revised implementation plan, detailing a strategy to overcome those specific impediments to benefit sustainability that were identified.

In undertaking these tasks, evaluators have three major tools: written reports, discussions with key decision makers, and workshops. There is a role for each of these tools in accomplishing the tasks identified above. Written records and oral presentations are the most common means by which evaluators present their results. Written reports are especially useful in that they create a permanent record to which project implementers can refer in the future. Moreover, it is the most efficient means of communicating results to a large audience, or to individuals who, for logistical reasons, cannot attend an oral presentation. In turn, oral presentations to key decision makers are important means of presenting results to individuals who would not be able to read a lengthy report. It also gives decision makers the opportunity to clarify issues with the evaluators and, by convening key decision makers to discuss the evaluation, provides a forum for consensus building.

A third method of presenting evaluation results, and one especially useful in dealing with the issues of sustainability, is the use of joint programming workshops. Such workshops may

involve project staff, local community leaders, or government officials, and may last from several hours to several days. Workshops have several uses (aside from serving as data gathering techniques as discussed earlier):

- The presentation of the results of the evaluation and the clarification of issues;
- The building of a consensus among those who will have to carry out the recommendations;
- The identification and planning of solutions to the impediments to benefit sustainability that were identified in the evaluation; and,
- Increasing the capacity of those who must carry out the solutions to do so, as well as to respond to constraints to benefit sustainability which are encountered in the future.

Numerous techniques can be used to accomplish the above objectives. They include force field analysis, mutual support sharing exercises, scenario building, goal setting, and organizational responsibility charting. Two of these activities--force field analysis and mutual support sharing exercises--are discussed below.

In a "force field analysis", objectives are identified and the driving and restraining forces influencing the achievements of that goal are articulated. Then, those factors most amenable to management action are selected and strategies developed to take advantage of the positive forces and overcome the constraints. For example, one important issue for sustainability may be the creation of self-reliance in beneficiary organizations. Through the use of such an exercise, project staff and beneficiaries can identify the forces that would promote the self-reliance of such organizations including the existence of dynamic leaders and the desire to control or own resources, as well as those that would impede self-reliance--lack of information, unfulfilled promises by project staff, and so forth. Once identified, strategies could be developed to encourage the positive forces or minimize the negative ones.

In a "mutual support sharing" exercise, groups whose coordination is needed for sustainability express separately, in concrete terms, what they need from and can provide to one another. Subsequently the groups meet, discuss the points raised, and set priorities. Mutually agreed upon sets of actions are then planned to encourage the cooperation needed.

For a workshop aimed at addressing sustainability issues to bear fruit, however, the following conditions must be met:

- Time at the end of the evaluation must be scheduled for the workshop;
- Significant actors must attend the sessions pertaining to their future activity; and
- The team must include someone with experience and skill in using workshops to build concensus and commitments of future action.

Such an approach should help to enhance the possibility that project implementation processes will support sustainable development.

Whether or not workshops are the appropriate forum for a dialogue on benefit sustainability, that dialogue should take place. It should include members of the formative evaluation team and the important project decisionmakers. While dialogues per se can be useful, there is a great danger they will be forgotten if they do not result in a revised project implementation strategy.

Alleviating Constraints

The objective of project evaluators should be not only to identify problems, but to identify solutions as well. Consequently, when evaluating a project for benefit sustainability the evaluators should develop a realistic plan to overcome or alleviate major constraints. This plan should serve as the basis for the project team's activities until the expiration of the project. Such a plan, however, should be developed with the participation of project staff in consultation with key non-project decision makers. It should also include discussion of alternative strategies for overcoming various obstacles to increased potential benefit sustainability.

Though political and economic policy constraints may be the most serious impediments to benefit continuation in many projects, they are probably the most difficult for project managers to ameliorate. Political and policy differences must be dealt with carefully, especially by outsiders. Basically, project management staff have three options when facing such constraints. First, they may decide to do nothing about them. This is a logical decision when the costs involved in attempting to alleviate the constraints outweigh those entailed in working within them.

Second, project managers might decide to expend project resource to ameliorate the problem. This could entail, for example, allocating staff time to expedite resource deliveries or policy decisions, establishing closer relationships with key decision makers, or taking on additional responsibilities which were not planned for in the project design. A third response to political or macroeconomic constraints might be to change basic implementation strategy. This could entail changes in target groups, geographic areas of concentration, project components and outputs, etc. Selecting from among these alternatives will be the responsibility of project management. However, it may be more effectively done when project staff, government officials, and community leaders are involved in the process.

A parallel strategy would be to enlist local and national level policy makers in support of the project, and to sensitize these personnel to the sustainability problems. The publication of the evaluation's findings can facilitate this process. Similarly, efforts of project staff to document the deleterious impact of policies on project implementation may be effective. Seminars for government officials and local community leaders could be offered by project staff, dealing with such issues as "where the project is going" and "what is needed to get there".

Another approach would be to hold a strategy session among project staff to identify key officials who might lend support to the project, determine how they might best help, and devise strategies for approaching them. Obtaining the support of local officials, for example, might be easier if they were directly involved in some project activities and shared in any honors that resulted.

Similar techniques can be used to explore solutions to financial constraints. Workshops at various governmental levels could address issues such as:

- Phased elimination of subsidies;
- Phased assumption of recurrent costs;
- Lower cost alternatives for continual project activities; and
- Alternative revenue sources most appropriate for ensuring the continuation of key activities.

Plans can then be developed collaboratively to specify timing, responsibility for action, resource requirements and coordination needs. An iterative process dealing with multiple workshop groups at different governmental levels can serve capacity building functions simultaneously.

Institutional constraints would be handled in a similar fashion. Training needs, procedural requirements, the burden of new responsibilities and resource demands, personnel patterns, leadership requirements and the need to adjust the above in light of what is realistic, given the incentives for people to adopt alternative behavior patterns, are all key issues.

The emphasis would vary depending on project circumstances and evaluation findings. Nevertheless, the interaction among macro, financial and institutional constraints is likely to be central to success and sustainability.

REFERENCES

Agency for International Development. 1974. Project Evaluation Guidelines, third edition (M.O. 1026.1 Supplement I). Washington, D.C.: Agency for International Development.

Agency for International Development. 1979. "Project Evaluation Summary--Operation Mils Mopti (79-2)." Washington, D. C.: Agency for International Development.

Agency for International Development. 1980. "Project Evaluation Summary--Thaba Bosiu Rural Development Project (80-4)." Washington, D.C.: Agency for International Development.

Agency for International Development. 1981a. "Asia Bureau Agriculture and Rural Development Conference: Summary of Proceedings and Recommendations." Washington, D.C.: Agency for International Development.

Agency for International Development. 1981b. Upper Volta Country Development Strategy Statement, 1983. Washington, D.C.: Agency for International Development.

Bates, R. H. 1981. Markets and States in Tropical Africa: The Political Basis of Agricultural Policies. Berkeley, California: University of California Press.

Barclay, A. H. Jr. and others. 1979. The Development Impact of Private Voluntary Organizations: Kenya and Niger. Washington, D.C.: Development Alternatives, Inc.

Chambers, R. 1981. "Rapid Rural Appraisal: Rationale and Repertoire," Public Administration and Development 1(2).

Crawford, P. 1982. AID Experience in Agricultural Research: A Review of Project Evaluations. Washington, D.C.: Development Alternatives, Inc.

Dworkin, D. 1980. Rural Water Projects in Tanzania: Technical Social and Administrative Issues, Special Study No. 3. Washington, D.C.: Office of Evaluation, Agency for International Development.

Fennessey, J. 1976. "Social Policy Research and Bayesian Inference," The Evaluation of Social Programs, C. C. Abt, ed. Beverly Hills, California: Sage Publications.

Gray, C. and A. Martens. 1980. "Recurrent Costs of Development Programs in the Countries of the Sahel: Analysis and Recommendations," report prepared for the working group on recurrent costs of the Comite Permanent Inter-Estats de Lutte Contrea La Secherese Dans Le Sahel (CILSS). Paris: Club du Sahel.

Heller, P. 1979. "The Underfinancing of Recurrent Development Costs," Finance and Development, 16(1).

Honadle, G. 1979. Rapid Reconnaissance Approaches to Organizational Analysis for Development Administration. Washington, D.C.: Development Alternatives, Inc.

Honadle, G. 1981. Fishing for Sustainability: The Role of Capacity Building in Development Administration, IRD Working Paper No. 8. Washington, D.C.: Development Alternatives, Inc.

Kearl, B. 1976. Field Data Collection in the Social Sciences: Experience in Africa and the Middle East. New York: Agriculture Development Council.

Levy, I. and others. 1981. Bolivia: Rural Roads I and II, Project Impact Evaluation, Report No. 18. Washington, D.C.: Agency for International Development.

Miracle, M. P. 1979. "Evaluation of Some Aspects of Niger's Cereal Project," Project Evaluation Summary 79-5 (Annex VI). Washington, D.C.: Agency for International Development.

Morss, E. R. and others. 1975. Strategies for Small Farmer Development. Boulder, Colorado: Westview Press.

Murphy, J. T. 1980. Getting the Facts: A Fieldwork Guide for Evaluators and Policy Analysts. Santa Monica, California: Goodyear Publishing Company.

Practical Concepts, Inc. 1974. A Guide for Assessing Organizational Viability, volume III. Prepared for the Agency for International Development. Washington, D.C.: Practical Concepts, Inc.

Wolgin, J. 1981. "AID Policy Towards the Recurrent Cost Problem in Less Developed Countries," (draft) prepared for the Agency for International Development. Washington, D.C.: Agency for International Development.

World Bank. 1980a. Annual Review of Project Performance Audit Results. Washington, D.C.: The World Bank.

World Bank. 1980b. Rural Development Projects: A Retrospective View of Bank Experience in Sub-Saharan Africa, report No. 2242. Washington, D.C.: The World Bank.

World Bank. 1981. Accelerated Development in Sub-Saharan Africa: An Agenda for Action. Washington, D.C.: The World Bank.